

Food Trade-Offs: Choosing How to Balance the Diet

Julia M. Dinkins, PhD
Mark Lino, PhD

U.S. Department of Agriculture
Center for Nutrition Policy and Promotion

People often make “food trade-offs” to balance their diet. For example, a person may choose to eat lowfat frozen yogurt rather than regular ice cream. The trade-offs that people make, who makes these trade-offs, and how these trade-offs affect their diet are of interest to nutrition educators. This Insight examines in-depth the food trade-offs people make. From a list of 14 foods, people indicated whether they used any of five trade-offs to balance the nutrition in their diet. Most people made at least one food trade-off—typically limiting how often they ate a food. And those who made food trade-offs had a more healthful diet, compared with those who made none.

Source of Data

We used data from Market Research Corporation of America (MRCA) Information Services for this analysis. MRCA conducts a National Consumer Panel. Households are selected based on demographic criteria matched to the U.S. Census. We used information from 5,787 adults in these households for the 1992-94 period. All data were weighted to the population.

These adults were asked what food trade-offs they typically made to balance the nutrition in their diet when they ate 14 foods: red meat, eggs, cheese, breads, margarine, salad dressing, chips, pretzels, sugared soft drinks, ice cream, cakes, cookies, sweet rolls/donuts, and sugar. These foods are typically characterized as being high in

fat, cholesterol, sodium, and/or calories. MRCA compiled a list of food trade-offs people may use and verified the list in the pretesting phase of data collection. People could select one or more of five trade-offs they made with regards to each food: limit how often eaten, limit portion size, give up some other food (e.g., consume ice cream, but do not consume cake because of this), substitute a healthier version of food (e.g., consume extra lean red meat rather than regular red meat), or substitute a food item with another food item at other times (e.g., consume chips as a snack today, but consume an apple as a snack tomorrow). So, for each food, people could make no trade-off or could make up to five trade-offs. The maximum number of trade-offs they could make for all 14 foods was 60.

Most People Make Food Trade-Offs

Most people (86 percent) reported making at least one food trade-off (fig. 1). Forty-one percent reported making 1 to 10 food trade-offs, and 45 percent reported making 11 or more trade-offs. The trade-off most often reported was limiting how often a particular food was eaten: 82 percent of the people said they made this trade-off for at least one of the 14 foods (fig. 2). The next trade-off that was most frequently used was limiting the portion size: 53 percent of the people said they made this trade-off for at least one of the 14 foods. The least likely trade-off strategies people used were

substituting a healthier version of the food (18 percent), substituting with another food at other times (10 percent), and giving up some other food (8 percent).

Some People More Likely Than Others to Make Food Trade-Offs

Personal characteristics influence one's likelihood to make food trade-offs. Of the characteristics examined, gender, age, race, and education were significantly different for people making food trade-offs (table). Compared with males, females were much more likely to make a food trade-off. Ninety-two percent of females reported making at least one food trade-off; 79 percent of males reported making a trade-off. Older adults were more likely to make a food trade-off than were their younger counterparts: 90 percent of people ages 51 and over versus 76 percent of people ages 18 to 30 made a trade-off.

Non-whites were more likely to make a food trade-off than were whites (91 vs. 85 percent). People with more education also were more likely to make a food trade-off. Ninety percent of adults with more than a high school diploma made a food trade-off; 82 percent of adults with a high school diploma or less did so.

People Who Make Food Trade-Offs Have a "Better Diet"

To answer the question of whether people who use a food trade-off have a "better diet" than those who do not, we used a modified version of the Healthy Eating Index (HEI). This version uses 9 of the original 10 HEI components.

Figure 1. People are likely to use tradeoffs to balance their diet

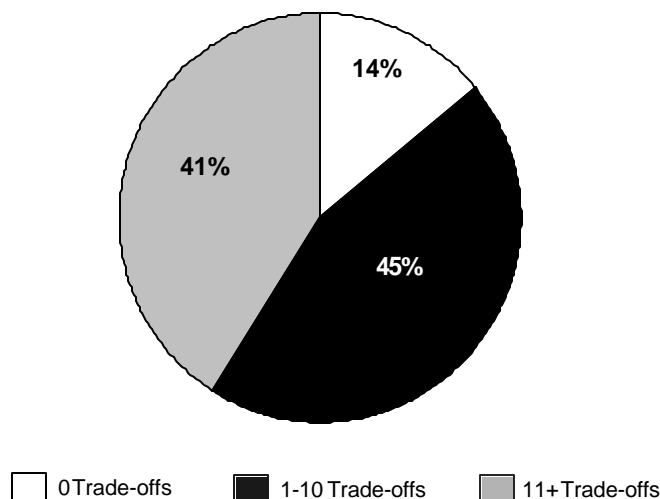


Figure 2. People are most likely to limit how often certain foods are eaten

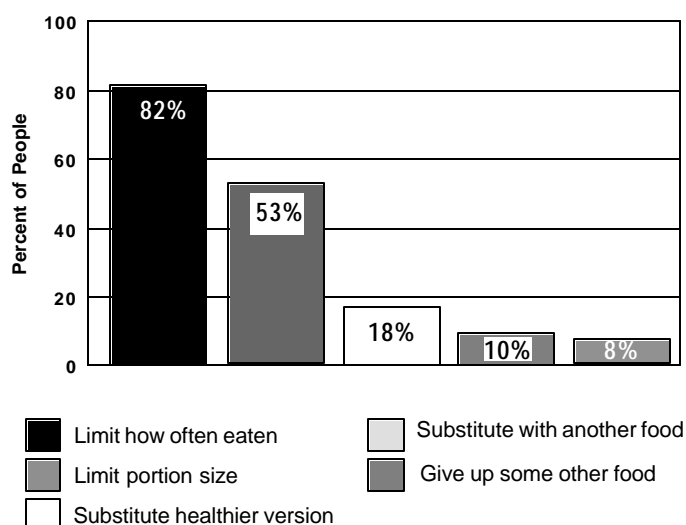


Table. Food trade-offs are influenced by people's characteristics

Characteristic	Made trade-offs	Did not make trade-offs
	<i>Percent</i>	
Gender*		
Male	79	21
Female	92	8
Age*		
18-30	76	24
31-50	87	13
51+	90	10
Income		
< \$21,000	85	15
\$21,000-\$40,000	85	15
\$41,000+	89	11
Race*		
White	85	15
Non-white	91	9
Education*		
12 years of education or less	82	18
More than 12 years of education	90	10

* Significant at .05 level, based on unweighted data.

Components 1-5 measure the degree to which a person's diet conforms to serving recommendations of the Food Guide Pyramid food groups: Grains (bread, cereal, rice, and pasta), vegetables, fruits, milk (milk, yogurt, and cheese), and meat (meat, poultry, fish, dry beans, eggs, and nuts). As a percentage of total intake of food energy, component 6 measures consumption of total fat; component 7, saturated fat. Component 8 measures total cholesterol intake; component 9, sodium intake. The score for each component ranges from zero to 10. The MRCA data set does not provide enough information to calculate the variety of a person's diet (component 10 of the original HEI), so variety was not calculated. All total HEI scores on the modified version were adjusted to a

100-point scale. Scores greater than 80 imply a "good diet"; between 51 and 80, a diet that "needs improvement"; and less than 51, a "poor diet."

Adults who reported making 11 or more food trade-offs for the 14 foods had a significantly higher HEI score (60.0) than was the case for adults who reported making 1 to 10 trade-offs (57.0) and for adults who reported making no food trade-offs (53.5). Additional analysis showed that adults who made at least one food trade-off, compared with those who made no trade-offs, had significantly higher HEI component scores for grains, fruit, vegetables, fat, saturated fat, and cholesterol. These higher scores indicate that people had intakes that were closer to recommendations for these HEI components.

Conclusion

Most people report making food trade-offs to balance the nutrition in their diet. The most common trade-offs are limiting how often a food is eaten and limiting portion size. People who make such trade-offs have a better diet than those who do not (although both groups had average HEI scores indicating a diet that "needed improvement"). Nutrition educators may find this information on food trade-offs helpful in the design of realistic nutrition intervention programs and individual counseling and as a technique for encouraging healthful eating.